Maine Stream Team Program
NEWS

Networking, Education, and Stewardship

Volume 5 Issue 3 Summer/Fall 2005

Homeowner Practices for Stream Protection

Do you live in a stream watershed or are you working to protect and improve the water quality of your local stream or river? The most significant problem affecting the water quality of streams and smaller rivers is caused by development and other land uses adjacent to and in the watershed of these water bodies. This includes agriculture, forestry operations, and, to a growing extent, development.

An example of a poor vegetated buffer, with lawn mowed up to the edge of the stream.

For some small streams, the primary land use affecting the stream may be residential development. If you live next to or near a stream or river, you should be aware of and minimize your impact.

There are laws in place that are designed to protect natural resources including streams. These include Shoreland Zoning, the Natural Resources Protection Act, and the Erosion and Sedimentation Control Law. These laws are important and, when followed, they provide a basic, yet critical, level of protection to our streams.

Still, these laws should not make us believe that streams are completely protected from human activities. For example, under these laws, smaller streams are afforded less protection than larger streams and rivers. In addition, existing development near streams and rivers is generally not held to the same standards as new developments.

We encourage landowners to exceed minimum standards in order to achieve a higher level of protection and benefits. Keep reading to see how you can make a difference!

The Problem

Homeowners impact streams by altering both the quantity and quality of runoff . In a natural forested area, the vegetation and irregular forest floor allow most precipitation to be intercepted and soak through the ground to be delivered to the stream as groundwater.

When vegetation is removed by humans, the landscape typically is flattened, and impervious surfaces (e.g. roads, parking lots, roofs, etc.) are created. As a consequence, more precipitation is delivered to the stream as overland flow, creating a number of potential problems.

High flow events in the stream become more frequent, leading to increased flooding, stream erosion and destabilization. Between storm events, less groundwater feeds the streams, raising water temperature and potentially drying out the stream. In addition the quality of

INSIDE THIS ISSUE

Homeowner Practices for Stream Protection (cont.)

Rain gardens catch runoff from impervious surfaces and allow time for it to infiltrate the ground. This rain garden is at the University of Maine Cooperative Extension Water Quality office in Orono. Photo by Laura Wilson.

the stormwater is affected as this increased runoff picks up pollutants such as eroded soil, oil, spilled gasoline, fertilizers, pesticides, pet waste, and other pollutants.

Another problem affecting streams occurs when homeowners remove or alter naturally vegetated areas or buffers along the stream and stream banks. These natural vegetated areas play an important role in the water quality and ecology of streams.

Trees and other woody vegetation along the stream help stabilize the stream bank and provide shade which keeps water cool. When trees die, they fall alongside or in the stream, providing further stability as well as habitat and cover for fish and other aquatic organisms. Leaves, twigs and other organic debris are also an important food source for aquatic insects and other organisms.

Larger or wider buffers can store and treat runoff between developed areas and the stream. Lastly, buffers provide habitat for many different types of animals and a travel corridor for wildlife.

What Homeowners Can Do

- *Establish buffers.*

The single most important practice homeowners can apply is to leave a buffer between developed land and a stream. Lawns up to the stream edge should be avoided. Not only does a buffer provide ecological and water quality functions, but its deep roots also help protect homeowner property by stabilizing the stream bank.

If no buffer exists, the easiest step to take is to allow these areas to revert to natural vegetation. At least right along the stream, it is best to allow natural vegetation (trees and shrubs) to grow. Nursery plants may be planted also, but try to use only native (non-exotic) plants. Some references advocate a three zone buffer: a no-disturbance streamside zone, a middle zone of mixed vegetation that allows some clearing, and an outer zone for residential activities.

The width of the buffer depends on what the purpose of the buffer is, but in general the wider the buffer the better. To maximize the value of the buffer, reduce or eliminate channelized flow going into and through the buffer by spreading it out. Lastly, avoid “cleaning up” the buffer (that is, raking out leaves and other organic debris), because these materials filter stormwater runoff.

- *Use rain barrels.*

Rain barrels are simply barrels used to collect roof top runoff which may then be used later to water lawns and plants. Information on how to make or purchase rain barrels is available on the web.

- *Create a rain garden.*

Another practice homeowners can apply is to install a rain garden. Rain gardens are landscaped areas that capture runoff from impervious areas and lawns, and infiltrate the runoff into the ground rather than allowing it to run off into a channel, ditch, stormdrain or directly to the stream. The gardens have specific design criteria. They are lower in the middle or bowl shaped so that runoff is ponded for infiltration. To allow infil-

Homeowner Practices for Stream Protection (cont.)

tration, the soil is a mix of sand, topsoil and compost that usually requires amendment of the existing soil. Plants must be specifically chosen for the zones of the garden to tolerate dry, dry-wet or wet conditions. Sample designs and plant selections are available on the web.

♦ *Use good yardscaping practices.*

- Limit lawn areas and plant native plants. Native plants have wildlife value and are more resistant to disease, reducing the need for pesticide and fertilizer use.

- Eliminate or reduce the use of pesticides and fertilizers, particularly for aesthetic purposes (i.e. lawns). Besides the potential for pesticides to end up the stream, pesticides can be harmful if used incorrectly. Pesticides are a health risk, particularly for children, pets, birds and other wildlife. Make sure you have a pest problem before using pesticides, and if you must use them, use less toxic products like soaps and plant based insecticides whenever possible.

- Do not dump yard waste (lawn clippings, leaves, etc.) in or next to a stream. Compost these materials or dump away from the stream.

- If you are doing any construction work, make sure there are erosion and sedimentation controls in place. Chronic eroded areas should also be stabilized.

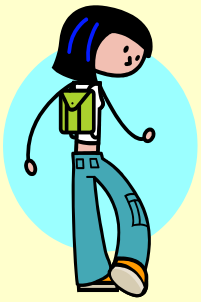
For more information, check out the online resources listed below.

Resources

Stream Buffers and Stream-Friendly Landscaping Information
< http://www.maine.gov/dep/blwq/docstream/team/riparian.htm >
< http://www.yardscaping.org/ >
University of Maine Cooperative Extension Publications
< http://extensionpubs.umext.maine.edu/ >

LakeSmart (offers resources that benefit streams too)
< http://www.maine.gov/dep/blwq/doclake/lakesmart/resources.htm>
Rain Barrel Information
< http://www.rainsaverusa.com > < http://www.skyjuice.us/ >
< http://www.ne-design.net > < http://nerainbarrel.com/ >
Raingarden Information
< http://www.raingardens.org >
< http://clean-water.uwex.edu/pubs/raingarden/index.html >
Audubon Resources for Healthy Backyards
< http://www.audubon.org/bird/at_home/ >
Maine DEP Laws, Standards, and Best Management Practices (BMP's) Regarding Water Resource Protection
< http://www.maine.gov/dep/blwq/stand.htm >
< http://www.maine.gov/dep/blwq/docstand/stormwater/erosion.htm>


A sample 80-gallon rain barrel.



INTRODUCING MAINE STREAMLINES FOR KIDS!!

We are pleased to announce the introduction of a new stream-themed educational page for kids (K-8) as a part of our regular newsletter. Streamlines will be archived on the MSTP website (see pg. 8 for the URL). Share it with a kid you know!

Let us know what you think! Send comments and suggestions to: < erin.l.crowley@maine.gov >.

Critter Corner: Beavers in Your Watershed

Full grown North American beaver, *Castor canadensis*. Picture courtesy of Rocky Mtn. Nat'l Park.

Common Name	Beaver
Scientific Name	*Castor canadensis*
Average Length	4 feet (including tail)
Average Weight	40-50 pounds

You may not have ever seen a beaver in the wild, but chances are you could identify the first one you met. With a long, flat, scaly tail and familiar buckteeth, it is the largest and perhaps the most recognizable rodent in North America.

The beaver is well adapted for life in and around water. It has nostril and ear valves which close off while underwater. Protective membranes over the eyes act like swimming goggles. The hind feet are webbed, to help propel the beaver through the water. It also has furry lips behind its famous teeth, which allow it to swim with branches in its mouth without swallowing water.

Beavers are inevitably associated with engineering, with the impressive dams and lodges they construct. They take stream habitat and turn it into prolific wetland habitat by constructing dams of logs and branches which they cut down with their chisel-like, perpetually-growing front teeth.

Once a pond forms behind the dam, a beaver family builds a lodge with a predator-proof underwater entrance. Beavers constantly stay busy maintaining their dams, filling the chinks with mud, and grasses.

Prior to the arrival of Europeans in North America, an estimated 200 million beavers lived throughout the continental U.S., excepting areas where alligators were prevalent (parts of Florida and Louisiana). Within a single square mile of land could be found up to 300 beaver dams along with the acres of wetlands they created.

With the arrival of Europeans, and their insatiable appetite for beaver felt hats, entire populations of beaver were decimated. Many years later when demand for beavers was much lower, beavers were reintroduced to many places from which they had been virtually eliminated. The result is an estimated population of 10 million beavers in the continental U.S., roughly 5% of the original population (which translates to a 95% loss of beaver-engineered wetlands).

A beaver dam provides habitat for more than just the family of beaver that builds it. It benefits many other species with the wetland and meadow habitat it creates. Species native to both land and water will make use of the wetlands, as will species that rely solely on wetlands, leading to a rich diversity of life.

These beaver-engineered wetlands also provide important services to the watershed. The dam itself acts as a filter, capturing larger debris and sediments and holding them in place. The emerging wetland vegetation slows the flow of the water, trapping finer sediments and nutrients as they pass downstream. The resulting wetlands are able to absorb excess water in flood stage and release it slowly back into the streams, reducing the impact of storm events and, in turn, erosion.

References

Haemig, PD, "Ecology of the Beaver," <http://www.ecology.info/beaver-ecology.htm>, 2005.
Muller-Schwarze, Dietland, and Lixing Sun, The Beaver: Natural History of a Wetlands Engineer, Comstock Publishing Associates, 2003.
Outwater, Alice, Water: A Natural History, Basic Books, 1996.
"A Beaver in the Wild," <http://www.nps.gov/romo/resources/plantsandanimals/names/checklists/mammals/beaver.html>.

Announcements

What's That Stuff in the Water? New Online: Field Guide to Aquatic Phenomena

Photos and descriptions of weird colors and objects you may encounter in lakes, rivers, and streams. Available on the web at < http://www.umaine.edu/waterresearch/FieldGuide/ >. Produced by the University of Maine and the Maine Department of Environmental Protection.

The Public Benefits of Conserved Lands - Brochure Available

The Maine Land Trust Network recently produced its newest publication “The Public Benefits of Conserved Lands”. The publication was designed to: Increase public awareness of the benefits of conserved lands, generate greater support for land conservation measures locally and statewide, and demonstrate how conservation supports Maine’s economy. While the publication may be used for a wide variety of audiences it may be particularly valuable for municipal and state-level decision makers/elected officials, business owners, voters, and the media. Water quality benefits are mentioned on pages 10-11. The brochure may be viewed at < http://www.mcht.org/pdf/Public_Benefit_Brochure.pdf > or by calling the MCHT at (207) 729-7366.

"The Watershed Journey of Linus Loon" Storybook Available

Check out this free illustrated storybook for children which uses a charming animal story to teach kids about watershed ecology. Teacher and student handbooks are available too. Visit < http://www.state.me.us/spo/mcp/resources/linus/index.php > to download and for more information.

Save the Rapid River

"Maine's Rapid River (Oxford County) is in danger. Non-native smallmouth bass were illegally introduced into the watershed in Umbagog Lake over 10 years ago. The bass are now moving their way up into the Rapid River and Pond-in-the-River at an alarming rate, threatening the vitality of the native trout. Please check back soon for more information on how you can help to preserve and protect the home of one of the last self-sustaining populations of large wild brook trout in the United States." Source: < http://www.flyfishinginmaine.com/savetherapid/ >.

NPS Times Summer 2005 Issue Available

The Nonpoint Source (NPS) Times newsletter is available online at < http://www.state.me.us/dep/blwq/newslet/npstarchiv.htm >. Highlights include:

- Great Works River Community Forum Summary
- South Perley Brook Restoration (Aroostook County)
- Poll: Majority Want U.S. Federal Trust Fund for Clean Water
- World Rivers Day, September 25, 2005 and "Water for Life Decade" (2005-2015)
- New Maine Stormwater Management Rules Expected in Late 2005
- New Stormwater Illicit Discharge Manual Now Available

Maine Association of Nonprofits -- Education & Training Opportunities

Training opportunities include topics like grant writing, fundraising, board development, organizational management, computer training (e.g., PowerPoint, webpage development), etc. For more information visit < http://www.nonprofitmaine.org/education.asp >.

Calendar Items

2005 River Clean-Ups in Maine, sponsored by Communities Getting Involved (CGI).

Check out the CGI website < http://www.communitiesgettinginvolved.org/ > as the clean-ups draw near or contact Eric Goodwin (voice-mail: 207-235-2591, email: erickgoodwin@yahoo.com).

-- Androscoggin River Clean-up; August 8-14; 102 miles through 21 municipalities; will need 250 people.

-- Nezinscot River Clean Up (3rd Annual); September 17th (tentative date); in Buckfield and Turner.

Saco River Community Workshops

Workshop #1: Fryeburg – Legion Hall; August 26; 9:00-1:30; #2: Cornish Fire Station; September 22, 9:00–1:30; #3: Biddeford City Hall; September 23, 9:00–1:30. Topics include: water quality, stormwater, land conservation and protection, source water assessment, funding and recreation. For more information and to register, contact Dennis Finn of the Saco River Corridor Commission [phone: 207-625-8123; email: srcc@srcc-maine.org].

World Rivers Day 2005

September 25. For more information visit < www.riversday.bcit.ca/update.htm >.

THIS SPACE FOR RENT!

Let us help you with publicity! To have your organization's announcements or news items included in our next newsletter, submit them by January 1st.

World Water Monitoring Day 2005

October 18. On-line site registration and kit purchases will begin in July and the monitoring period will be from September 18 through October 18. For more information, visit <www.worldwatermonitoringday.org>.

Smart Growth Summit

October 20, 2005; Augusta Civic Center, Maine. For details visit < http://www.growsmartmaine.org/ >.

State of the Bay 2005 (Casco Bay) Conference

November 3, 2005; South Portland, Maine. This conference will update attendees on the current known status of the health in the Bay and watershed including indicators such as population, impervious surface, conservation, undeveloped habitat blocks, water quality, eelgrass habitat and others. More information will be available on the website < http://www.cascobay.usm.maine.edu/ > by mid-late September.

Conference: Integrated Restoration of Riverine Wetlands, Streams, Riparian Areas, and Floodplains in Watershed Contexts

November 15-16, 2005; University of Massachusetts, Amherst, Massachusetts. Hosted by the Association of State Wetland Managers and sponsored by a number of agencies and organizations. For more information, visit < http://www.aswm.org/calendar/integratingrest/integratedrest.htm >

Maine Rivers Conference

Fall/Winter 2005 (TBA). Check: < http://www.mainerivers.org > for updates.

River Rally 2006

May 5-9, 2006. This national river conference will be held in Bretton Woods, NH. See < http://www.rivernetwork.org/rally/ > for more details.

$$ Grant Opportunities $$

Funder	Region	Deadline(s)	Phone	Contact Address/Web Site (W)/Email (E)
Ben & Jerry's Foundation	National	Anytime Full Proposal- Nov, Mar, Jul	(802)-846-1500	www.benjerry.com/foundation/index (W)
The Armand G. Erpf Fund, Inc.	International	Quarterly	(212)-758-9700	c/o KPMG LLP; 757 Third Avenue; New York, New York 10017
Gladys and Roland Harriman Foundation	National	Oct, Apr	(212)-493-8182	c/o Harriman Foundation Group; 63 Wall Street, Suite 1301; New York, NY 10005
Indian Point Foundation	National	Oct, Jan, Apr	(212)-722-5464	Call for application.
Mars Foundation	National	Oct 15	(703)-821-4900	Call for application.
R.K. Mellon Family Foundation	National	Oct 1, Apr 1	(724)-238-5269	Call for application.
The Penates Foundation	Northeast	Nov	(603)-926-5911	1 Liberty Lane; Hampton, NH 03842
The George B. Stoner Foundation, Inc.	National	Nov 15	(305)-852-3323	P.O. Box 1270; Saratoga, WY 82331
Sweet Water Trust	New England	Oct 15; Quarterly	(617)-482-5998	www.sweetwatertrust.org (W)
Lawson Valentine Foundation	National; Northeast Emphasis	Anytime: Winter-Summer decision	(860)-570-0728	vdoyle@compuserve.com (E)
Cricket Foundation	New England	Nov 1, May 1	(617)-570-1130	
Project Aware	International	Nov 15, Feb 15, May 15, Aug 15		www.projectaware.org (W)
Tom's of Maine	National; emphasis Maine	Nov 1, Feb 1	(207)-985-3982	www.tomsofmaine.com/about/grants.asp (W)
Acorn Foundation	National	Jan15, Jun 15	(510)-834-2995	www.commoncounsel.org (W)
Libra Foundation	Maine	Anytime	(207)-879-6280	www.librafoundation.org (W)
The Prospect Hill Foundation	Northeast	Anytime	(212)-370-1165	www.fdncenter.org/grantmaker/prospecthill (W)
The Betterment Fund	Northeast Maine emphasis	Anytime	(212) 319-7390	c/o Davidson, Dawson & Clark; 330 Madison Avenue Rm. 3500; New York, NY 10017

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Maine Stream Team Program
c/o Maine DEP
312 Canco Road
Portland, Maine 04103

How Do I Join the MSTP?

It's easy! First, choose a stream or stream segment. Next, obtain a "stream team registration form" by contacting us, or simply fill out the online registration form. After registering, you will receive some helpful information and begin to receive our periodic newsletter to help you stay up-to-date.

Membership to the program is free to any interested citizen, family, or organization. Once you have a "Team" and a stream, you're set! You can determine your stream's values and problems, and you can plan projects based on your assessments. You establish the course of events in protecting your stream. The Maine Stream Team Program will help you with ideas, advice, and informational materials.

Contact The Maine Stream Team Program (MSTP):

Mail: Maine Stream Team Program, c/o Maine DEP, 312 Canco Road, Portland, ME 04103

E-mail: mstp@maine.gov

Internet: http://www.maine.gov/dep/blwq/docstream/team/streamteam.htm

Phone: (888)769-1036 (toll free – ask for the Maine Stream Team Program); (207)822-6317 [Jeff Varricchione, Portland, coordinator]; (207)822-6331 [Erin Crowley, Portland, Americorps volunteer]; (207) 287-7729 [Mary-Ellen Dennis, Augusta]; (207)941-4566 [Mark Whiting, Bangor]

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